

AMENDMENT

In the Claims

Please cancel claims 104-113, amend claim 103, and add new claims 114-133 as follows.

- S1b F1*
103. (Once Amended) A Class II Major Histocompatibility Complex fusion protein comprising
a heterodimer of a first polypeptide chain and a second polypeptide chain;
wherein the first polypeptide chain comprises a fusion of, toward the N-terminus, an extracellular domain of an MHC Class II α chain and, toward the C-terminus, a first coiled-coil dimerization domain;
wherein the second polypeptide chain comprises a fusion of, toward the N-terminus, an extracellular domain of an MHC Class II β chain and, toward the C-terminus, a second coiled-coil dimerization domain; and
wherein the first dimerization domain and said second dimerization domain associate in solution at physiological conditions to form a heterodimer capable of selectively binding an MHC binding peptide.
- S1b F2*
114. (New) The MHC Class II fusion protein of claim 103 wherein the extracellular domain of MHC Class II α chain comprises 5-180 of an MHC Class II α chain.
115. (New) The MHC Class II fusion protein of claim 103 wherein the extracellular domain of MHC Class II α chain comprises residues 5-200 of an MHC Class II α chain.
116. (New) The MHC Class II fusion protein of claim 103 wherein the MHC Class II α chain is an HLA-DR2 allele.
117. (New) The MHC Class II fusion protein of claim 103 wherein the MHC Class II α chain is encoded by an HLA allele selected from the group consisting of DRA*0101 and DRA*0102.

118. (New) The MHC Class II fusion protein of claim 103 wherein the MHC Class II β chain extracellular domain comprises residues 5-185 of an MHC Class II β chain.

119. (New) The MHC Class II fusion protein of claim 103 wherein the MHC Class II β chain extracellular domain comprises residues 5-205 of an MHC Class II β chain.

120. (New) The MHC Class II fusion protein of claim 103 wherein the MHC Class II β chain is an HLA-DR2 allele.

121. (New) The MHC Class II fusion protein of claim 103 wherein the MHC Class II β chain is encoded by an allele selected from the group consisting of DRB1*01, DRB1*15, DRB1*16, and DRB5*01.

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122. (New) The MHC Class II fusion protein of claim 103 wherein the dimerization domain comprises a leucine zipper domain.

123. (New) The MHC Class II fusion protein of claim 122 wherein the leucine zipper domain comprises at least four leucine heptads.

124. (New) The MHC Class II fusion protein of claim 123 wherein the leucine zipper domain is selected from the group consisting of a Fos and a Jun leucine zipper domain.

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125. (New) The MHC Class II fusion protein of claim 103 further comprising a first immunoglobulin Fc domain positioned at the C-terminus of one of the first and second polypeptide chains.

126. (New) The MHC Class II fusion protein of claim 125 wherein the Fc domain is an IgG Fc domain.

127. (New) The MHC Class II fusion protein of claim 125 wherein the Fc region includes the hinge region.

128. (New) The MHC Class II fusion protein of claim 103 further comprising a first flexible molecular linker covalently linking the MHC Class II α chain to the first dimerization domain and a second flexible molecular linker covalently linking the MHC Class II β chain to the second dimerization domain.

129. (New) The MHC Class II fusion protein of claim 103 further comprising an MHC binding peptide bound to the MHC Class II fusion protein.

130. (New) The MHC Class II fusion protein of claim 129 wherein the MHC binding peptide is covalently bound to the MHC Class II fusion protein.

131. (New) A MHC Class II-peptide complex comprising
at least one Class II MHC fusion protein comprising
a heterodimer of a first polypeptide chain and a second polypeptide chain;
wherein the first polypeptide chain comprises a fusion of, toward the
N-terminus, an extracellular domain of an MHC Class II α chain and, toward the
C-terminus, a flexible molecular linker, and a first coiled-coil dimerization
domain;
wherein the second polypeptide chain comprises a fusion of, toward the
N-terminus, an extracellular domain of an MHC Class II β chain and, toward the
C-terminus, a flexible molecular linker, and a second coiled-coil dimerization;
wherein an Fc domain is covalently attached to the C-terminus of one of
the first and second dimerization domains;
wherein the first dimerization domain and said second dimerization
domain associate in solution at physiological conditions; and
an MHC binding peptide covalently bound to the MHC Class II fusion protein.

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